Weapons Detection System brings better security to courtrooms, schools

Soon after installation, the first commercial use of an innovative weapons detection system developed at the Idaho National Engineering and Environmental Laboratory did its job and probably saved lives.

The Concealed Weapons Detection system identified a concealed gun on a man attempting to enter the Bannock County Courthouse in Pocatello.

The remotely monitored system, which provides quantitative information such as identifying multiple weapons and the approximate size and location of each, identified a suspicious object on the man's upper right torso. When the man produced a set of keys as the culprit, the system knew better.

The CWD system can discriminate between metals, allowing common personal artifacts like keys, coins and belt buckles to pass through without triggering false alarms. After three attempts to fool the system, the suspect slowly revealed a pistol before bolting for the door. Since then, the system has stopped another pistol, and in its first two months of operation also prevented 85 knives and a hatchet from entering the courthouse.

"We couldn't be happier with the system," said Bannock County Commissioner Tom Katsilometes. "We

Glenn Shell, program manager for the Concealed Weapons Detection system at the INEEL, is interviewed by local television reporters. In the first two months of operation, the system stopped 85 knives, two guns and a hatchet from entering the Bannock County Courthouse.

had an incident several years ago where there was a shooting in our courthouse and our new system possibly prevented another incident."

The system was designed to offer public facilities, schools and businesses a cost-effective security solution without the usual downside: hassles and delays due to high false-alarm rates, increased staffing costs and "Gestapo-like" search tactics that create a less-than-friendly environment.

This walk-through detector accomplishes these goals by using a unique, passive magnetic sensing technology combined with "intelligent" software to detect and locate objects containing materials found in metal weapons such as guns, knives and razors.

The system is sensitive enough to detect items as small as an Exacto blade (a concern in public school security), yet discriminating enough to let common personal artifacts like keys and loose change pass through without triggering the high false-alarm rates of traditional electromagnetic detection devices such as those used in airports. Key to the system's cost-effectiveness is its ability to allow remote monitoring of security entrances.

"The remote monitoring enabled us to secure three entrances and an exit with just two part-time and two full-time staff," said Katsilometes. "To provide the same level of security with a traditional airport-type detector would require six to 10 people. We conservatively estimate the INEEL system will save us about $150,000 a year in labor costs."

The CWD system is extremely accurate and provides quantifiable information that can support probable cause. It

Bannock County Commissioner Tom Katsilometes, right, talks with Bill Ackerknecht, LMITCO Sensor Product Division director; Bill Guyton, LMITCO vice president and general manager of Applied Engineering and Development Laboratory; and Dave Ferris of the National Institute of Justice at the CWD ribbon cutting ceremony in Pocatello.

A ribbon-cutting ceremony officially turned over the Concealed Weapons Detection equipment to Bannock County. Participating were representatives from the Department of Energy-Idaho Operations Office, Lockheed Martin Idaho Technologies Company, National Institute of Justice and Bannock Chamber of Commerce.

features continuous monitoring so there are no “dead” areas where a weapon can be missed. This increased accuracy speeds security checks and takes the guesswork out of weapons search. The use of passive technology also relieves public concern about the impact on health and interference with medical devices from “active” EM scanners. Instead, the passive technology of the CWD system is completely nonintrusive.

The system features open architecture design, and uses low-cost, off-the-shelf components, making it affordable for cost-sensitive security applications like public schools and courtrooms. The system is completely networkable with other systems, offers a user-friendly computer interface, and is compatible with a host of custom programs such as face recognition and explosives detection. The system also is ideal for covert surveillance. Its sensors are small enough to fit into a door frame, and it can be embedded in a wall with little concern for the building material, including most metals.

“The Bannock County success is real-world proof the Concealed Weapons Detection system works as designed,” said Jeffrey Mobley, director of licensing and business development at Lockheed Martin Idaho Technologies Company. “That installation was partly funded by the National Institute of Justice, which was instrumental in helping finance the development of this technology. We now feel it is ready for commercialization.”

(Story written for the Star by Diane Salisbury.)

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